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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,588	11/19/2001	Harri Lahti	879A.0078.U1(US)	2676

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HARRINGTON & SMITH, PC
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EXAMINER	
CHANG, RICHARD	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/937,588	LAHTI ET AL.	
	Examiner	Art Unit	
	Richard Chang	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,5,8-10 and 12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,2,4,5 and 12* is/are allowed.

6)☒ Claim(s) *8 and 9* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The last office action mailed to applicant on 11/29/2006 is vacated since the wrong reference was cited. To correct the error, a supplemental office action is re-mailed to applicant with a 3-month statutory response set from the re-mailing of the office action. Please disregard the previous office action.

Response to Amendment

1. Applicant's amendments, filed 9/11/2006, with respect to claims 1-2, 4-5, 8-10 and 12 have been fully considered, a new ground of rejections of claims 8-9 is made as follow.

Claim 3, 6-7 and 11 had been canceled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,631,896 ("Kawase et al."), US patent 6,678,259 B1 ("Bickford et al.") in view of and further in view of US patent 5,515,403 ("Sloan et al.").

Regarding claims 8, Kawase et al. teach a hitless path switching apparatus and method in digital communication systems (method for changing parallel signals in a digital data transmission), in which transmission is parallel in both working and protection paths (in which method the data flow to be transmitted is divided into several transmissions) (See Fig. 12) comprising steps of

- there is selected a primary transmission path (51) and a secondary path (61) (See Fig. 12, Col 5, lines 48-54),

- in the transmission paths, there is carried out the transmission of the data frame (S1, see Fig. 3),

- there is Cyclic Redundant Check (CRC) algorithm applied for error correction in both paths (51, 61) (See col. 10, lines 39-48),

- the error sum of the selected transmission path is compared with the other paths and when necessary, the transmission path selected as the one to be received is changed over to a path with a smaller error sum (See Col. 10, lines 57-64 and Fig. 12, Col 9, lines 40-53).

Kawase et al. teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

"indoor and outdoor units using antennas for a radio link".

Bickford et al. teach a similar high reliability diversity radio communication system wherein outdoor unit (102a, 102b) with antenna (104, 106 horizontal and vertical) for digital transmission over a radio link (100) and indoor unit (120a,

120b) with signal routing capability (changed over functions) (see Fig. 1, Col. 3, lines 26 to col. 4, line 5).

At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to combine Bickford et al. with Kawase et al. in order to obtain a hitless path switching apparatus and method in digital communication in which transmission is parallel in both working and protection working and protection paths with indoor and outdoor paths and to take advantage of the structure of outdoor unit with multiple antenna's for digital transmission over a radio link and indoor unit with signal routing capability.

The motivation to do so would have been to utilize the structure of outdoor unit with multiple antenna's for digital transmission over a radio link and indoor unit with signal routing capability, as suggested by Bickford et al. in Col. 3, lines 26 to col. 4, line 5.

Kawase et al. and Bickford et al. teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

"indicating a change of a clock signal by sufficiently accurately cophasal clock signals".

Sloan et al. teach a method for smooth clock alignment and switch by indicating a change of a clock signal (active clock) after waiting for a sufficiently accurately cophasal clock signals (phase detection and alignment) (see Fig. 3, Col. 4, lines 29-53).

At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to combine Sloan et al. with Kawase et al. and Bickford et al. in order to obtain an outdoor unit for digital data transmission over a radio link and for selecting the data flow for parallel signals in radio digital data transmission and to take advantage of smoothing clock alignment and switch by indicating a change of a active clock after waiting for a sufficiently accurately cophasal phase detection and alignment.

The motivation to do so would have been to smooth clock alignment and switch by indicating a change of a active clock after waiting for a sufficiently accurately cophasal phase detection and alignment, as suggested by Sloan et al. in Col. 4, lines 29-53.

Regarding claim 9, this claim has limitation that is similar to those of claim 8 and Kawase et al. further teach that the CRC calculation using the HEC byte is performed, and the official notice indicates that for CRC the checksum is calculated by multiplying the data flow by a polynome suitable for modeling, thus it is rejected with the same rationale applied against claim 8 above.

Allowable Subject Matter

4. Claims 1-2, 4-5 and 12 are allowed.

5. Claims 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if no art rejection can be applied.

Reasons for indicating Allowable Subject Matter

6. The following is an examiner's statement of reasons for allowance:

The prior art along or in combination fails to teach or make obvious the following limitations:

"calculating a check sum for the data flow of a length of a processed section of the data flow, said check sum being added to the processed section of the data flow in order to form a data frame to be transmitted; transmitting the data frame in transmission paths; correcting correctable errors in received data frames and calculating an error sum for each transmission path; comparing the error sum of a selected transmission path with error sums of other paths, said transmission path being changed to a path with a smaller error sum when said transmission path is selected as the path to be received; changing a propagation assured signal on the basis of an error sum obtained from an outdoor unit, said changeover device being arranged to change clock signals after waiting for sufficiently accurately cophasal clock signals wherein a clock signal is changed over after waiting for a sufficiently accurately cophasal clock signals" as recited in the *independent claims 1, and*

"the changeover devices comprise a multiplexer for receiving the clock signals of signal pairs to be received and for selecting the clock signal to be received, data frame decoding blocks for receiving the clock

signals and data signals and for forming said signals into control signals and data signals which are decoded from the data frames, elastic buffer and control blocks for receiving the control signals and data signals decoded from the data frames and for receiving the selected clock signal in order to synchronize the data, a data signal multiplexer for receiving data signals from the elastic buffer and control blocks, and a decoding block for receiving a data signal from the data signal multiplexer and for controlling the data signal multiplexer" as recited in the *independent claim 4 and dependent claim 10.*

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rkc

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SUPERVISORY PATENT EXAMINER